

WHAT IS CLAIMED IS:

1. A method of forming a semiconductor chip module comprising the steps of:

providing a support member having at least one well formed therein, each of said wells being open to receive a semiconductor chip and being of a depth substantially equal to the thickness of a semiconductor chip;

said support member having planar regions surrounding each well;

securing a semiconductor chip in each well, each of said semiconductor chips having electrical contact pads on one side thereof oriented toward the opening of said well;

laminating a dielectric sheet of organic material over each of said semiconductor chips and at least partially on said planar area, said dielectric sheet of material having a face oriented away from said semiconductor chip;

forming electrical circuitry on said first face of the dielectric sheet and extending onto the sheet overlying the planar region and having electrical capture pads thereon;

forming conducting vias connecting said circuitry on said dielectric sheet with the electrical contact pads on said chip; and

connecting a multilayer, circuitized laminate structure to said face of said dielectric sheet of material, said multilayer, circuitized laminate having first circuitry on one face connected to the capture pads on said dielectric sheet and second circuitry on the opposite face connected to a ball grid array structure.

2. The invention as defined in claim 1 wherein said multilayer, circuitized laminate structure is secured to said sheet of dielectric material by a sticker sheet having openings therein corresponding to said electrical capture pads on said sheet of dielectric material.

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3. The invention as defined in claim 1 wherein said openings in said sticker sheet are filled with electrical conducting material.

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4. The invention as defined in claim 3 wherein said sticker sheet is a soldermask material.

5. The invention as defined in claim 2 wherein said sheet of dielectric material has a Young's modulus of between 10,000 psi and 1,000,000 psi.

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6. The invention as defined in claim 1 wherein said sheet of dielectric material is PTFE.

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7. The invention as defined in claim 1 wherein each said I/C chip is secured in each well with an adhesive.

8. The invention as defined in claim 1 wherein a plurality of wells are formed in said support member, and an I/C chip is secured in each well.